IN THE CLAIMS

Please amend the claims as follows:

1. (cancelled)

2. (currently amended) A system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs, comprising:

obtaining impedance values ~~Z1L~~ for output impedance of a first source block during reverse propagation, obtaining impedance value ~~Z2R~~ for input impedance of ~~from~~ a second source block during forward propagation and impedance value ~~Z3R~~ for input impedance of ~~from~~ a third source block during forward propagation by a property propagation methodology;

calculating in a microprocessor impedance value ~~Z1R~~ for input impedance of the first source block during forward propagation from the values for ~~Z2R~~ input impedance of ~~from~~ the second source block, ~~Z3R~~ input impedance from the third source block during forward propagation and back propagating the value of ~~Z1R~~ input impedance to an input node for the first source block during forward propagation;

calculating in the microprocessor impedance values for ~~Z2L~~ output impedance of the first source block in reverse propagation from the values for ~~Z1R~~ input impedance from the first source block during forward propagation, ~~Z3R~~ input impedance from the third source block during forward propagation and back propagating the value of ~~Z2L~~ the output impedance of the first source block during reverse propagation to an output node for the first source block;

calculating in the microprocessor impedance values for ~~Z3L~~ output impedance of the third ~~first~~ source block during reverse propagation from the values for ~~Z1R~~ input impedance from the first source block during forward propagation, ~~Z2R~~ input impedance from the second source block during forward propagation and back propagating the value of ~~Z3L~~ the output impedance of the third source block during reverse propagation to an output node for the first source block;

propagating the impedance values for ~~Z2L~~ output impedance of ~~to~~ the second source block during reverse propagation and the new impedance value ~~Z3L~~ of output impedance of to the third source block during reverse propagation; and

calculating in the microprocessor a value for ~~MMA~~ impedance mismatch for the first source block, a value for ~~MMB~~ impedance mismatch for the second source block and a value for ~~MMC~~ impedance mismatch for the third source block.

3. (previously presented)The system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 2, further comprising calculating a minimum and a maximum operating frequency values for the source block.

4. (previously presented) The system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 3, further comprising storing the minimum and maximum operating frequency values of the source block in the system simulator.

5. (previously presented) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 4, further comprising determining on each propagation pass whether a new minimum or a new maximum operating frequency value obtained from the propagation pass is less the minimum operating frequency value or more than the maximum operating frequency value that is stored in the system simulator, and if so, updating the stored minimum operating frequency value with the new minimum operating frequency value and updating the stored maximum operating frequency value with the new maximum operating frequency value.

6. (previously presented) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 5, further comprising generating a global mismatch frequencies from a discrete

set of frequencies having a range of resolution between the minimum operating frequency value and maximum operating frequency value.

7. (previously presented) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 6, where the global mismatch frequencies are complex, frequency dependent values.

8. (previously presented) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 6, further comprising calculating corrections values on the source block input signal.

9. (currently amended) A system simulator for calculating the impedance mismatch of a source block having a plurality of inputs and at least one outputs, comprising:

obtaining impedance values ~~Z1L~~ of output impedance of a first source block during reverse propagation, impedance value ~~Z2L~~ of output impedance from a second source block during reverse propagation and impedance value ~~Z3R~~ of input impedance from a third source block during forward propagation by a property propagation methodology;

calculating in a microprocessor impedance value ~~Z1R~~ of input impedance of the first source block during forward propagation from the values for ~~Z2R~~ input impedance ~~input~~ from the second source block during forward propagation, ~~Z3R~~ input impedance from the third source block during forward propagation and back propagating the value of ~~Z1R~~ input impedance of the first source block during forward propagation to an input node for the first source block;

calculating in the microprocessor impedance values for ~~Z2R~~ input impedance of the first source block during forward propagation from the values for ~~Z1L~~ output impedance from the first source block during reverse propagation, ~~Z3R~~ input impedance from the third source block during forward propagation and back propagating the value

of ~~Z2R~~ input impedance from the second source block during forward propagation to an output node for the first source block;

calculating in the microprocessor impedance values for ~~Z3L~~ output impedance of the first source block during reverse propagation from the values for ~~Z1L~~ output impedance from the first source block during reverse propagation, ~~Z2L~~ output impedance from the second source block during reverse propagation and back propagating the value of ~~Z3L~~ output impedance of the third source block during reverse propagation to an output node for the first source block;

propagating the impedance values for ~~Z2L~~ output impedance of ~~to~~ the second source block during reverse propagation and the new impedance value ~~Z3L~~ output impedance of ~~to~~ the third source block during reverse propagation; and

calculating in the microprocessor values for ~~MMA1~~ a first impedance mismatch and ~~MMA2~~ a second impedance mismatch for the first source block, and a value for ~~MMB~~ impedance mismatch for the third source block.

10. (previously presented) The system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 9, further comprising calculating a minimum and a maximum operating frequency values for the source block.

11. (previously presented) The system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 10, further comprising storing the minimum and maximum operating frequency values of the source block in the system simulator.

12. (previously presented) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 11, further comprising determining on each propagation pass whether a new minimum or a new maximum operating frequency value obtained from the propagation pass is less the minimum operating frequency value or more than the maximum operating frequency value that is stored in the system simulator, and if so, updating the stored

minimum operating frequency value with the new minimum operating frequency value and updating the stored maximum operating frequency value with the new maximum operating frequency value.

13. (previously presented) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 12, further comprising generating a global mismatch frequencies from a discrete set of frequencies having a range of resolution between the minimum operating frequency value and maximum operating frequency value.

14. (previously presented) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 13, where the global mismatch frequencies are complex, frequency dependent values.

15. (previously presented) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 14, further comprising calculating corrections values on the source block input signal.